

REMARKS

By the subject Amendment, Applicants have amended Claims 1, 13, 15 and 26 and added Claims 28 to 31. Accordingly, Claims 1 through 31 are presently pending herein. Claims 1, 13, 15, 26 and 31 are presented in independent form. Applicants have also amended the Specification to correct several typographical errors.

The Official Action dated May 9, 2005, includes only two grounds of rejection. Specifically, Claims 1 to 11, 13 to 24, 26 and 27 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Brown (i.e., U.S. Patent No. 6,226,356). Notably, no alternative grounds of rejection were imposed by the Examiner under 35 U.S.C. § 102 and/or 35 U.S.C. § 103 with respect to Claims 1 to 11, 13 to 24, 26 and 27. Claims 12 and 25 were rejected under 35 U.S.C. § 103 as allegedly being obvious based on the combination of Brown and Goldstein (i.e., U.S. Patent No. 5,265,151). Applicants respectfully traverse these grounds of rejection.

REJECTION ALLEGEDLY BASED ON ANTICIPATION

“Anticipation...requires that the *identical invention that is claimed* was previously known to others and thus is not new...*When more than one reference is required to establish unpatentability of the claimed invention anticipation under § 102 can not be found*, and validity is determined in terms of § 103.” *Continental Can v. Monsanto*, 948 F.2d 1264, 1267 (Fed. Cir. 1991)(emphasis added).

The single reference must have an enabling disclosure. See *Advanced Display Systems Inc. v. Kent State University*, 54 USPQ 2d 1673, 1679 (Fed. Cir. 2000)(“Accordingly, invalidity by anticipation requires that the four corners of a *single, prior art document* describe every element of the claimed invention, expressly or inherently, such that *a person of ordinary skill in the art could practice the invention without undue experimentation.*”)(emphasis added); See also, *PPG Industries*,

Inc. v. Guardian Industries Corp., 37 USPQ 2d 1618, 1624 (Fed. Cir. 1996)(“To anticipate a claim, a reference must disclose every element of the challenged claim and *enable one skilled in the art to make the anticipating subject matter.*”)(emphasis added)

“To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. *Such evidence must make clear that the missing descriptive matter is necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can*, 948 F.2d at 1268. (emphasis added)

“*Inherency, however, may not be established by probabilities or possibilities.* The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)(emphasis added). See also, *Continental Can*, 948 F.2d at 1269.

“[T]he initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention rests upon the examiner...In relying upon inherency, *the examiner must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ 2d 1461, 1464 (BPAI 1990)(emphasis in original)

When evaluated under these standards, the rejection under 35 USC §102(e) based on Brown cannot be sustained.

Regarding Claim 1, Applicant’s invention is directed to a method of reducing power required for transmitting a signal from a first transceiver to a second transceiver. The method includes the steps of: estimating at the first transceiver an excess amount of power used by the

first transceiver for transmitting the signal, *wherein the excess amount of power for the signal is based at least in part on a value obtained during initialization*; reducing a power use of the first transceiver by the excess amount of power to a reduced power level; and transmitting the signal from the first transceiver using the reduced power level, wherein the reduced power level achieves a transmission rate of the signal within a predefined tolerance of a target rate thereof.

Brown does not teach or suggest, *inter alia*, estimating an excess amount of power used by the first transceiver for transmitting the signal, *wherein the excess amount of power for the signal is based at least in part on a value obtained during initialization*. In fact, Brown does not even mention initialization. Further, nothing in Brown requires that an estimate of excess power of a transceiver be based in part on a value obtained during initialization. Accordingly, Brown does not anticipate or render obvious Applicant's invention as recited in Claim 1.

Claims 2 through 12 and 28 depend directly or indirectly from Claim 1 and, therefore, are allowable for similar reasons. Applicants note that Claims 2 through 12 and 28 include additional features that patentably distinguish their invention from the prior art. For example, Claim 3 requires that the excess amount of power for the signal is estimated in accordance with *the measured value of upstream attenuation*. Brown measures line characteristics to determine the necessary power to be transmitted. The only three line characteristics mentioned by Brown are capacitance, impedance and inductance. (See Brown, col. 4, lines 19 to 25) Nowhere does Brown teach or suggest the claimed feature that the excess amount of power for the signal is estimated in accordance with the *measured value of upstream attenuation*. The Examiner cites to col. 8, lines 11 to 52, Figs. 2 and 6 and col. 4, line 29 to col. 5, line 39 allegedly in support of the rejection of Claim 3. None of these passages disclose an excess amount of power for the signal estimated in accordance with the *measured value of upstream attenuation*. Nowhere does

Brown disclose that the look up tables and mathematical equations referenced by the Examiner utilize upstream attenuation in any way to estimate transmission power. In this regard, Applicants note that Brown merely states that the look-up table could include information that equates a particular *impedance* to the amount of transmission power needed. (See Brown, col. 4, lines 37 to 46)

Another example is Claim 28 which requires that the transmission of the signal from the first transceiver using the reduced power level be done *during initialization and prior to transmission of C-REVERB*. Brown does not teach or suggest this feature of Applicant's invention. Brown merely states the following:

It is envisioned that the methods of FIGS. 2a and 2b can be implemented manually, or through an automated procedure that implements the methods FIGS. 2a and 2b on a periodic basis. For example, the test measurement circuit 335 may measure the subscriber line 115 characteristics on a daily basis and then forwards the information to the control logic 125 via the GCI port 490. Thus, it would be possible for the control logic 125 to adjust the transmission power of the driver 120 on a daily basis. (See col. 7, lines 27 to 35)

Notably, the above passage does not expressly or implicitly require that the signal using the reduced power level is transmitted during initialization and prior to transmission of C-REVERB. In fact, neither initialization or transmission of C-REVERB is even mentioned.

Applicants' invention, as recited in Claim 13, is directed to a method of reducing power required for transmitting a signal from a first transceiver to a second transceiver. The method includes the steps of: determining at the second transceiver an amount of excess power in the signal transmitted from the first transceiver; calculating at the second transceiver an attainable reduced power level for the transmitted signal; and communicating the reduced power level

between the second and first transceivers, *wherein the first transceiver adjusts its power level during a first initialization and prior to a time period that would require a second initialization.*

Brown does teach or suggest, *inter alia*, adjusting the power level during a first initialization and prior to a time period that would require a second initialization. The only reference to the time for performing the methods recited in Brown is contained in the passage below:

It is envisioned that the methods of FIGS. 2a and 2b can be implemented manually, or through an automated procedure that implements the methods FIGS. 2a and 2b on a periodic basis. For example, the test measurement circuit 335 may measure the subscriber line 115 characteristics on a daily basis and then forwards the information to the control logic 125 via the GCI port 490. Thus, it would be possible for the control logic 125 to adjust the transmission power of the driver 120 on a daily basis. (See col. 7, lines 27 to 35)

Nowhere does the above passage refer to initialization or require adjusting the power level during initialization and prior to a time that would require a second initialization. Accordingly, Claim 13 patentably defines over the prior art including Brown.

Claims 14 and 29 depend from Claim 13 and, therefore, are allowable for similar reasons. Applicants note that Claims 14 and 29 include additional features that patentably distinguish their invention from the prior art. Specifically, Claim 14 requires the second transceiver to indicate a power cutback implicitly by reducing power-per-carrier information communicated to the first transceiver. This feature is not taught or suggested by Brown. Notably, the Examiner has not cited any passage in Brown allegedly disclosing this feature. Claim 29 requires that transmission of the signal from the first transceiver using the reduced power level be done during initialization and prior to transmission of C-REVERB. As explained in connection with Claim 28, this feature is not taught or suggested by Brown.

Applicants' invention, as recited in Claim 15, is directed to an apparatus for reducing power required for transmitting a signal from a central office asymmetric digital subscriber line (ADSL) termination unit (ATU-C) to a remote ADSL termination unit (ATU-R), wherein the ATU-C includes a processor for controlling the ATU-C to implement processing including the acts of: estimating an excess amount of power used by the ATU-C for transmitting the signal, *wherein the excess amount of power for the signal is based at least in part on a value obtained during initialization*; reducing a power use of the ATU-C by the excess amount of power to a reduced power level; and transmitting the signal from the ATU-C using the reduced power level, wherein the reduced power level achieves a transmission rate of the signal within a predefined tolerance of a target rate thereof.

Brown does not teach or suggest, *inter alia*, estimating an excess amount of power used by the first transceiver for transmitting the signal, *wherein the excess amount of power for the signal is based at least in part on a value obtained during initialization*. Brown does not mention initialization anywhere. Moreover, nothing in Brown requires that an estimate of excess power of a transceiver be based in part on a value obtained during initialization. Accordingly, Claim 15 is patentable.

Claims 16 to 25 depend directly or indirectly from Claim 15 and, therefore, are allowable for similar reasons. Applicants note that these claims include numerous other features which patently distinguish their invention from the prior art including Brown. For example, Claim 16 requires that the excess amount of power for the signal is estimated in accordance with a measured value of upstream attenuation. As previously explained in connection with Claim 3, Brown does not teach or suggest this feature of Applicants' invention.

Applicants' invention, as recited in Claim 26, is directed to an apparatus for reducing power required for transmitting a signal from a central office asymmetric digital subscriber line (ADSL) termination unit (ATU-C) to a remote ADSL termination unit (ATU-R), wherein the ATU-R includes a processor for controlling the ATU-R to implement processing including the acts of: determining an amount of excess power in the signal transmitted from the ATU-C; calculating an attainable reduced power level for the transmitted signal; and communicating the reduced power level to the ATU-C, *wherein the ATU-C adjusts its power level during a first initialization and prior to a time period that would require a second initialization.*

Brown does teach or suggest, *inter alia*, adjusting the power level during a first initialization and prior to a time period that would require a second initialization. The only reference to the time for performing the methods recited in Brown is contained in the passage below:

It is envisioned that the methods of FIGS. 2a and 2b can be implemented manually, or through an automated procedure that implements the methods FIGS. 2a and 2b on a periodic basis. For example, the test measurement circuit 335 may measure the subscriber line 115 characteristics on a daily basis and then forwards the information to the control logic 125 via the GCI port 490. Thus, it would be possible for the control logic 125 to adjust the transmission power of the driver 120 on a daily basis. (See col. 7, lines 27 to 35)

Nowhere does the above passage refer to initialization or require adjusting the power level during initialization and prior to a time that would require a second initialization. Accordingly, Claim 26 patentably defines over the prior art including Brown.

Claims 27 and 30 depend from Claim 26 and, therefore, are allowable for similar reasons.

Applicants note that these claims include additional aspects that further patentably distinguish

their invention from the prior art. In this regard, Applicants note that Claim 27 is similar to Claim 14 and Claim 30 is similar to Claims 28 and 29.

Applicants' invention, as recited in Claim 31, is directed to a method of reducing power required for transmitting a signal from a first transceiver to a second transceiver. The method includes the steps of: estimating an excess amount of power used by the first transceiver for transmitting the signal, wherein the excess amount of power for the signal is estimated in accordance with a measured value of upstream attenuation; reducing a power use of the first transceiver by the excess amount of power to a reduced power level; and transmitting the signal from the first transceiver using the reduced power level, wherein the reduced power level achieves a transmission rate of the signal within a predefined tolerance of a target rate thereof.

Brown does not teach or suggest, *inter alia*, a method wherein the excess amount of power for the signal is estimated in accordance with a measured value of upstream attenuation as explained in detail in connection with Claim 3.

REJECTION ALLEGEDLY BASED ON OBVIOUSNESS

"Determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on underlying facts." *In re Kumar*, 2005 U.S. App. LEXIS 17215,*8 (Fed. Cir. 2005). "During examination, *the examiner bears the initial burden of establishing a prima facie case of obviousness...* The prima facie case is a procedural tool, and requires the examiner *to initially produce evidence to support a ruling of obviousness. Id.* (emphasis added)

There must be a suggestion or motivation in the prior art to modify a reference to satisfy the claimed invention. In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "*The mere fact*

that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.” Id. (emphasis added)

It is impermissible to use the inventor’s own work to find the necessary motivation or suggestion to modify a reference to satisfy the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 USPQ 303, 312-313 (Fed. Cir. 1983)(‘To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of hindsight syndrome wherein that which only the inventor taught is used against the teacher.’)

“When an obviousness determination is based on multiple references, there must be a showing of some ‘teaching, suggestion, or reason’ to combine the references...Although a reference need not expressly teach that the disclosure contained therein should be combined with another...the showing of combinability, in whatever form, must be ‘*clear and particular.*’” Winner International Royalty Corp. v. Wang, 202 F.3d 1340, 1348-1349 (Fed. Cir. 2000)(emphasis added).

When analyzed under the foregoing legal standards, the rejection of Claims 12 and 25 based on the proposed combination of Brown and Goldstein cannot be sustained. Specifically, the clear and particular showing of combinability is lacking. Further, even if combined, the references do not teach or suggest Applicants’ invention, as recited in Claims 12 and 25. Brown is directed to a method and apparatus for regulating transmission power of a signal on a line. The method includes determining characteristics of the line (i.e., capacitance, inductance and impedance) and determining the transmission power needed to transmit the signal in response to these line characteristics. (See Brown, Abstract and col. 4, lines 18 to 36) Goldstein, on the other hand, is directed to a method of improving modem performance by measuring the signal to noise ratio and intermodulation distortion relating to signals being transmitted over a channel and

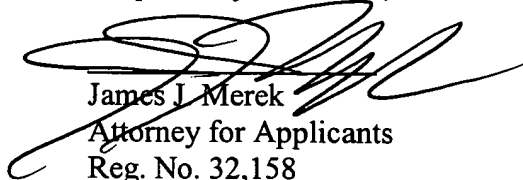
adjusting the transmitting power in response to the measurements to reduce the error rate of the data transmission. There is simply no suggestion or motivation to combine these differing technologies. Rather, the combination can only be made through the use of hindsight reconstruction. However, even if combined, the references do not teach or suggest Applicants' invention. Specifically, Claims 12 and 25 require providing a minimum *SNR inflated by a value N corresponding to the excess amount of power*. This feature is not taught or suggested by Brown or Goldstein. The Examiner cites to col. 5, line 57 to col. 6, line 60 and Figure 3 of Goldstein. The Examiner's reliance on these passages in Goldstein is misplaced. As Goldstein expressly states, these passages "identify the desired power level based on the measured signal/noise ratio and the measured IMD" rather than an SNR inflated by a value N corresponding to the excess amount of power. (See Goldstein, col. 5, lines 62 to 64) Accordingly, Claims 12 and 25 patentably define over the prior art of record including Brown and Goldstein.

Applicants respectfully submit that the subject patent application is now in condition for allowance. A check in the amount of \$400.00 is attached hereto to satisfy the government fee for the additional claims. It is believed that no additional fees are due. However, should that determination be incorrect, the Commissioner is hereby authorized to charge any deficiencies to Deposit Account No. 50-0562 and notify the undersigned in due course.

Date:

10/11/05

Respectfully submitted,



James I. Merek
Attorney for Applicants
Reg. No. 32,158

MEREK, BLACKMON & VOORHEES, LLC
673 South Washington Street
Alexandria, Virginia 22314
(703) 684-5633